

CLMS (9)

signals, said overlay signals causing the display of user specific information related to said program material, and means connected to said computer means and responsive to said decoder means when the presence of said embedded signal is detected for coupling said overlay signals to said television receiver, the overlays displayed at a multiplicity of said receiver stations being different, with each display specific to a specific user.

CLMS (10)

10. Television signal processor means according to claim 9, wherein said means connected to said computer means and responsive to said decoder means disconnects said video program signal from said television receiver upon detection of the absence of said embedded signal.

CLMS (11)

11. Television signal processor means according to claim 9, further including means coupled to said computer means for selectively updating said overlay signals.

CLMS (12)

12. Television signal processor means according to claim 11, wherein said embedded signal is a periodically recurring signal and wherein said means connected to said computer means and responsive to said decoder means couples said overlay video signals to said television receiver for so long as said embedded signal appears in said video program signal.

US PAT NO: 4,694,490 [IMAGE AVAILABLE]

L6: 4 of 4

CLMS (12)

CLMS (13)

13. Television signal processor means according to claim 9, wherein said overlay video signal represents a graphic overlay.

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=> set head off

SET COMMAND COMPLETED

=> s 5109414/pn

L1 1 5109414/PN

=> s 5965825/pn

L2 0 5965825/PN

=> s 4965825/pn

L3 1 4965825/PN

=> s 4704725/pn

L4 1 4704725/PN

=> s 4694490/pn

L5 1 4694490/PN

=> s 11 or 13 or 14 or 15

L6 4 L1 OR L3 OR L4 OR L5

=> d 1-4 clm

US PAT NO: 5,109,414 [IMAGE AVAILABLE]

L6: 1 of 4

CLAIMS:

CLMS(1)

We claim:

1. In a signal processing system,
a plurality of receiver/distribution means for receiving programming
from a program source and for inputting said programming to a switch
means and a plurality of detector means,
a switch means for receiving output from said plurality of
receiver/distribution means, said switch means being capable of
directing a selected portion of said programming received from one or
more said receiver/distribution means to an associated output device,
a plurality of detector means for detecting control signals respecting
said programming,
a first processor means operatively connected to said plurality of
detector means for identifying each detected control signal as having

been detected by a particular detector means,
a storage means for receiving and storing said detected control signals,
and
a second processor means for controlling the output directing function
of said switch means.

US PAT NO: 5.109.414 [IMAGE AVAILABLE]

L6: 1 of 4

CLMS(2)

2. In a signal processing system,
a plurality of receiver/distribution means for receiving programming
from a program source and for inputting said programming to a switch
means and a plurality of detector means,
a switch means for receiving output from said plurality of
receiver/distribution means, said switch means being capable of
outputting a selected portion of said programming received from one or
more said receiver/distribution means to a device for further
processing,
a plurality of detector means for detecting control signals respecting
said programming,
a first processor means operatively connected to said plurality of
detector means for identifying each detected control signal as having
been detected by a particular detector means,
a buffer/memory storage means for receiving and storing said detected
control signals, and
a second processor means for controlling the output function of said
switch means.

CLMS(3)

3. In a signal processing system,
a receiver/distributor means for receiving programming from a plurality
of program sources and for transmitting said programming to a matrix
switch means,
a matrix switch means for receiving said programming from such a
receiver/distributor means and for directing selected portions of said

US PAT NO: 5.109.414 [IMAGE AVAILABLE]

L6: 1 of 4

CLMS(3)

received programming to one or more output devices,
a plurality of detector means for detecting control signals respecting
said programming, each detector means being configured to detect said
control signals in a predetermined frequency range or at a
predetermined location within said programming,
a processor means operatively connected to said plurality of detector
means for adding data to said control signals identifying each control
signal as having been detected by a particular detector means,
a storage/transfer means for receiving and storing said control signals
and for transferring at least a portion of said control signals for
further processing, and
a processor means for controlling the directing function of said matrix
switch and the transfer function of said storage/transfer means.

CLMS(4)

4. In a signal processing system,
a receiver/distributor means for receiving programming from a plurality
of program sources and for outputting said programming to a matrix
switch means,
a matrix switch means for receiving said programming from such a
receiver/distributor means and for outputting selected portions of said
received programming to one or more output devices for further
processing or recording,
a plurality of detector means for detecting control signals respecting

said programming, each detector means being configured to detect said control signals in a predetermined frequency range or at a predetermined location within said programming,

US PAT NO: 5.109.414 [IMAGE AVAILABLE]

L6: 1 of 4

CLMS (4)

a processor means operatively connected to said plurality of detector means for adding data to said control signals identifying each control signal as having been detected by a particular detector means, a buffer means for receiving and storing said control signals and for transferring at least a portion of said control signals for further processing, and a processor means for controlling the output function of said matrix switch and the transfer function of said buffer means.

CLMS (5)

5. In a signal processing system, a receiver/distribution means for receiving programming from a plurality of program sources and for outputting said programming to a matrix switch means and a control signal detector means, a matrix switch means for receiving said programming from said receiver/distributor means and for outputting selected portions of said received programming to a recording device operatively connected to a broadcast transmission means, a control signal detector means for detecting control signals respecting said programming and transferring said control signals to a storage/transfer means, said control signal detector means being configured to detect said control signals in a predetermined frequency range or at a predetermined location within said programming, a storage/transfer means for receiving and storing said control signals and for transferring at least a portion of said control signals for further processing, and a processor means for controlling the output functions of said matrix

US PAT NO: 5.109.414 [IMAGE AVAILABLE]

L6: 1 of 4

CLMS (5)

switch means and the transfer functions of said storage/transfer means.

CLMS (6)

6. In a signal processing system, a receiver/distribution means for receiving programming from a plurality of program sources and for outputting said programming to a matrix switch means and a control signal detector means, a matrix switch means for receiving said programming from said receiver/distributor means and for outputting selected portions of said received programming to a broadcast transmission means and/or a recording device operatively connected to said broadcast transmission means, a control signal detector means for detecting control signals respecting said programming and transferring said control signals to a storage/transfer means, said control signal detector means being configured to detect said control signals in a predetermined frequency range or at a predetermined location within said programming, a storage/transfer means for receiving and storing said control signals and for transferring at least a portion of said control signals for further processing, and a processor means for controlling the output functions of said matrix switch means and the transfer functions of said storage/transfer means.

CLMS (7)

7. In a signal processing system,

a receiver/distribution means for receiving programming from a plurality

US PAT NO: 5.109.414 [IMAGE AVAILABLE]

L6: 1 of 4

CLMS (7)

of program sources and for outputting said programming to a matrix switch means and a control signal detector means,
a matrix switch means for receiving said programming from said receiver/distributor means and for directing selected portions of said received programming to a broadcast transmission means,
a control signal detector means for detecting control signals respecting said programming and transferring said control signals to storage/transfer means, said control signal detector means being configured to detect said control signals in a predetermined frequency range or at a predetermined location within said programming,
a storage/transfer means for receiving and storing said control signals and for transferring at least a portion of said control signals for further processing, and
a processor means for controlling the directing functions of said matrix switch means and the transfer functions of said storage/transfer means.

CLMS (8)

8. In a signal processing system,
a receiver/distribution means for receiving data from a plurality of data sources and for directing said data to a matrix switch means and a control signal detector means,
a matrix switch means for receiving said data from said receiver/distributor means and for directing selected portions of said received data to a processor means,
a control signal detector means for detecting switch control signals respecting said data and transferring said switch control signals to a storage/transfer means, said switch control signal detector means being

US PAT NO: 5.109.414 [IMAGE AVAILABLE]

L6: 1 of 4

CLMS (8)

configured to detect said switch control signals in a predetermined frequency range or at a predetermined location within said data as received from said data sources,
a storage/transfer means for receiving and storing said switch control signals and for transferring at least a portion of said switch control signals for further processing, and
a processor means for receiving and processing said switch control signals, controlling the directing functions of said matrix switch means and the transfer functions of said storage/transfer.

CLMS (9)

9. In a multichannel television distribution system,
a receiver/distributor means for receiving television programming from a plurality of program sources and directing said programming to a matrix switch means and a control signal detector means, a matrix switch means for receiving said programming from said receiver/distribution means and for directing selected portions of said received programming to a recording device operatively connected to a multichannel television distribution means,
a control signal detector means for detecting control signals respecting said programming and transferring said control signals to a storage/transfer means, said control signal detector means being configured to detect said control signals in a predetermined frequency range or at predetermined locations within said programming,
a storage/transfer means for receiving and storing said control signals and for transferring at least a portion of said control signals for further processing, and

CLMS(9)

a processor means for controlling the directing functions of said matrix switch means and the transfer functions of said storage/transfer means in response to said control signals or on local command.

CLMS(10)

10. In a multichannel television distribution system,
a receiver/distributor means for receiving television programming from a plurality of program sources and outputting said programming to a matrix switch means and a control signal detector means,
a matrix switch means for receiving said programming from said receiver/distribution means and for directing selected portions of said received programming to a multichannel television distribution means,
a control signal detector means for detecting control signals respecting said programming and transferring said control signals to a storage/transfer means, said control signal detector means being configured to detect said control signals in a predetermined frequency range or at predetermined locations within said programming,
a storage/transfer means for receiving and storing said control signals and for transferring at least a portion of said control signals for further processing, and
a processor means for controlling the directing functions of said matrix switch means and the transfer functions of said storage/transfer means in response to said control signals or on local command.

CLMS(11)

11. In a multichannel television distribution system,

CLMS(11)

a plurality of receiver/distribution means for receiving television programming from a plurality of program sources and directing said programming to a matrix switch means and a control signal detector and processor means,
a matrix switch means for receiving said programming from said plurality of receiver/distribution means and for directing selected portions of said received programming to a recording device operatively connected to a multichannel television distribution means,
a control signal detector and processor means for detecting control signals respecting said programming and transferring said control signals to a storage/transfer means, said control signal detector and processor means being configured to detect said control signals in specified frequency ranges or at specified locations within said programming, said control signal detector and processor means controlling the particular ranges and locations wherein said control signals are detected,
a storage/transfer means for receiving and storing said control signals and for transferring at least a portion of said control signals for further processing, and
a processor means for controlling the directing functions of said matrix switch means and the transfer functions of said storage/transfer means in response to said control signals or local command.

CLMS(12)

12. In a multichannel television distribution system,
a plurality of receiver/distribution means for receiving television programming from a plurality of program sources and outputting said

CLMS (12)

programming to a matrix switch means and a control signal detector and processor means,
a matrix switch means for receiving said programming from said plurality of receiver/distribution means and for outputting selected portions of said received programming to a multichannel television distribution means,
a control signal detector and processor means for detecting control signal respecting said programming and transferring said control signals to a storage/transfer means, said control signal detector and processor means being configured to detect said control signals in specified frequency ranges or at specified locations within said programming, said control signal detector and processor means controlling the particular ranges and locations wherein said control signals are detected,
a storage/transfer means for receiving and storing said control signals and for transferring at least a portion of said control signals for further processing, and
a processor means for controlling the output functions of said matrix switch means and the transfer functions of said storage/transfer means in response to said control signals or local command.

CLMS (13)

13. In a multichannel television distribution system,
a receiver/distribution means for receiving television programming from a multichannel television transmission facility and outputting said programming to a matrix switch means and a control signal detector and processor means,

US PAT NO: 5.109.414 [IMAGE AVAILABLE]

L6: 1 of 4

CLMS (13)

a matrix switch means for receiving said programming from said receiver/distribution means and for outputting selected portions of said received programming to a multichannel television distribution means,
a control signal detector and processor means for detecting control signals respecting said programming and transferring said control signals to a buffer means, said control signal detector and processor means being configured to detect said control signals in specified frequency ranges or at specified locations within said programming, said control signal detector and processor means controlling the particular ranges and locations wherein said control signals are detected,
a buffer means for receiving and storing said control signals and for transferring at least a portion of said control signals for further processing, and
a processor means for controlling the output functions of said matrix switch means and the transfer functions of said buffer means in response to said control signals.

CLMS (14)

14. In a signal processing system,
a receiver/distribution means for receiving programming from a program source and for outputting said programming to a matrix switch means and a control signal detector means,
a matrix switch means for receiving said programming from said receiver/distributor means and for directing selected portions of said received programming to a television signal transmission means,

US PAT NO: 5.109.414 [IMAGE AVAILABLE]

L6: 1 of 4

CLMS (14)

a control signal detector means for detecting control signals respecting

said programming and transferring said control signals to a buffer means, said control signal detector means being configured to detect said control signals at a predetermined location within said programming,
a buffer means for receiving and storing said control signals and for transferring at least a portion of said control signals to a processor means for further processing, and
a processor means for controlling the directing functions of said matrix switch means and the transfer functions of said buffer means based on instructions contained in said control signals.

CLMS(15)

15. In a signal processing system,
a receiver/distribution means for receiving data from a data source and for outputting said data to a matrix switch means and a control signal detector means,
a matrix switch means for receiving said data from said receiver/distributor means and for directing selected portions of said received data to a data transmission means,
a control signal detector means for detecting control signals respecting said data and transferring said control signals to a storage/transfer means, said control signal means being configured to detect said control signals at a predetermined location within said data,
a storage/transfer means for receiving and storing said control signals and for transferring at least a portion of said control signals to a processor means for further processing, and

US PAT NO: 5.109.414 [IMAGE AVAILABLE]

L6: 1 of 4

CLMS(15)

a processor means for controlling the directing functions of said matrix switch means and the transfer functions of said storage/transfer means based on instructions contained in said control signals.

CLMS(16)

16. In a multichannel television distribution system,
a receiver/distributor means for receiving television programming from a program source and directing said programming to a matrix switch means and a control signal detector means,
a matrix switch means for receiving said programming from said receiver/distribution means and for outputting selected portions of said received programming to a television transmission means,
a control signal detector means for detecting control signals respecting said programming and transferring said control signals to a storage/transfer means, said control signal detector means being configured to detect said control signals at predetermined locations within said programming,
a storage/transfer means for receiving and storing said control signals and for transferring at least a portion of said control signals to a processor means for further processing, and
a processor means for controlling (1) the output functions of said matrix switch means in response to said control signals, (2) the transfer functions of said storage/transfer means and (3) the predetermined locations within said programming wherein said control signals are detected.

US PAT NO: 5.109.414 [IMAGE AVAILABLE]

L6: 1 of 4

CLMS(17)

17. In a multichannel television distribution system,
a receiver/distributor means for receiving television programming from a program source and directing said programming to a matrix switch means and a control signal detector means,

a matrix switch means for receiving said programming from said receiver/distribution means and for outputting selected portions of said received programming to a recording device operatively connected to a television transmission means,
a control signal detector means for detecting control signals respecting said programming and transferring said control signals to a storage/transfer means, said control signal detector means being configured to detect said control signals at predetermined locations within said programming,
a storage/transfer means for receiving and storing said control signals and for transferring at least a portion of said control signals to a processor means for further processing, and
a processor means for controlling (1) the output functions of said matrix switch means in response to said control signals, (2) the transfer functions of said storage/transfer means and (3) the predetermined locations within said programming wherein said control signals are detected.

CLMS(18)

18. A method of communicating data in a system that consists of a plurality of transmission means, a plurality of detectors, a plurality of processors, a switch with means to communicate selected transmissions to

US PAT NO: 5.109.414 [IMAGE AVAILABLE] L6: 1 of 4

CLMS(18)

selected processors, and a control processor with capacity for controlling the output of said switch, said system being programmed to detect detector identification information and at least some of said detectors being programmed to combine control signal information, consisting of the steps of:
transmitting data in a selected transmission,
transmitting to said control processor a control signal that causes said processor to control said switch,
detecting said control signal at a selected detector, detecting the identification of said selected detector, combining for transmission to said control processor information of said control signal and said detector identification, and
causing said control processor to transmit control information to said switch
thereby to cause said switch to output at least a portion of said selected transmission to at least one selected processor.

CLMS(19)

19. In a method of communicating data in a system that consists of a plurality of transmission means, a plurality of detectors, a plurality of processors, a switch with means to communicate selected transmissions to selected processors, and a control processor with capacity for controlling the output of said switch, wherein at least some of said detectors are programmed to combine control signal information for transmission to said control processor and to transmit detector identification information, consisting of the steps of:
transmitting data in a selected transmission,

US PAT NO: 5.109.414 [IMAGE AVAILABLE] L6: 1 of 4

CLMS(19)

transmitting to said control processor a control signal that causes said control processor to control said switch, and
thereby causing a selected detector to combine for transmission to said control processor information of said control signal and detector identification information, said control processor to transmit control information to said switch, and said switch to input data of said selected transmission to at least one selected processor.

CLMS (20)

20. A method according to either claim 18 or claim 19 including the additional step of programming said systems to detect detector identification information.

CLMS (21)

21. A method of communicating television programming in a system that consists of a transmission station and a plurality of receiving stations, each receiving station having at least one detector, one video recorder and one video player with at least one of said detectors pre-programmed to detect distance information, consisting of the steps of:
transmitting a plurality of units of television programming,
causing a selected receiving station to record a selected television program unit,
causing said selected receiving station to position the start of said program unit at the play head of a video player, and
causing said video player thereafter to play and transmit at a selected time

US PAT NO: 5.109.414 [IMAGE AVAILABLE]

L6: 1 of 4

CLMS (21)

thereby to cause said selected receiving station to transmit said selected unit at said selected time.

CLMS (22)

22. A method of communicating television programming in a multichannel television system that consists of a transmission station and a plurality of receiving stations, each receiving station having at least one detector, one video recorder and one video layer with at least one of said detectors pre-programmed to detect distance information, consisting of the steps of:
transmitting a plurality of units of television programming,
causing a selected receiving station to record a selected television program unit,
causing said selected receiving station to position the start of said program unit at the play head of a video player, and
causing said video player thereafter to play and transmit at a selected time
thereby to cause said selected receiving station to transmit said selected unit at said selected time.

CLMS (23)

23. A method of inputting data in a system that consists of a first input means, at least one intermediate input means, and a plurality of processors consisting of the steps of:
transmitting a plurality of data units,
causing memory means associated with a selected intermediate input means

US PAT NO: 5.109.414 [IMAGE AVAILABLE]

L6: 1 of 4

CLMS (23)

to record a selected data unit, and
causing said memory means to transmit selected information of said selected data unit at a selected time,
thereby to cause said intermediate input means to input data of said selected data unit to at least one selected processor at said selected time and cause said processor to process said input data.

CLMS (24)

24. A method of inputting data in a system that consists of a first input means, at least one intermediate input means, and a plurality of processors consisting of the steps of:
transmitting a plurality of data units,
causing recorder means associated with a selected intermediate input means to record a selected data unit, and
causing a switch associated with said intermediate input means to connect the output of a player associated with said recorder to at least one selected processor at a selected time,
thereby to enable said intermediate input means to input data of said selected data unit to said selected processor and cause said processor to process said input data.

CLMS (25)

25. A method of communicating television programming in a system that consists of a transmission station and a plurality of receiving stations, each receiving station having at least one detector, one matrix switch, one video recorder and one video player with at least one of said

US PAT NO: 5,109,414 [IMAGE AVAILABLE] L6: 1 of 4

CLMS (25)

detectors pre-programmed to detect program identification information, consisting of the steps of:
transmitting programming in a selected television transmission,
transmitting a control signal to said control processor that causes said control processor to control said matrix switch, detecting said control signal at a selected detector, combining for transmission to said information of said control signal and said detector identification information and
causing said control processor to transmit control information to said switch
thereby to cause said switch to direct the programming of said selected transmission to at least one selected processor.

CLMS (26)

26. A method of communicating television programming in a system that consists of a transmission station and a plurality of receiving stations, each receiving station having at least one detector, one video recorder and one video player with at least one said detectors pre-programmed to detect program identification information, consisting of the steps of:
transmitting a plurality of units of television pre-programming containing embedded program identification information,
causing a selected receiving station to record a selected television program unit,
causing said station to position the start of said program unit at the play head of a video player,
causing said player thereafter to play and transmit at a selected time thereby to cause said selected station to transmit said selected unit at

US PAT NO: 5,109,414 [IMAGE AVAILABLE] L6: 1 of 4

CLMS (26)

said selected time.

US PAT NO: 4,965,825 [IMAGE AVAILABLE] L6: 2 of 4

CLAIMS:

CLMS (1)

We claim:

1. In a signal processor system, carrier transmission receiving means;

means for demodulating said carrier transmission to detect an information transmission thereon; detector means for detecting an embedded signal in the information transmission and removing it from said information transmission; first control means responsive to said detected signal to activate and/or deactivate equipment external to said signal processor system; second control means activated by said detected signal to monitor the performance and/or output of said first control means; a recorder means for receiving and recording data collected by said monitor means; and control means for instructing said recorder to direct information recorded thereon to a remote site.

CLMS(2)

2. In a signal processor, carrier transmission receiving means; means for demodulating said carrier transmission to detect an information transmission thereon; detector means for detecting an embedded signal in the information transmission and for removing said signal from said

US PAT NO: 4,965,825 [IMAGE AVAILABLE]

L6: 2 of 4

CLMS(2)

information transmission; control means responsive to said detected signal to activate and/or deactivate equipment external to said signal processor; monitor means activated by said detected signal to monitor the performance and/or output of said external equipment; a recorder means for receiving and recording data collected by said monitor means; control means for instructing said carrier receiving means to receive the appropriate carrier transmission within a predetermined time interval and to direct said received carrier transmission to said demodulating means and said detector means; and control means for instructing said recorder to direct information recorded thereon to a remote site.

CLMS(3)

3. In a signal processor, carrier transmission receiving means; means for demodulating said carrier transmission to detect an information transmission thereon; detector means for determining the presence or absence of an embedded signal in the information transmission within a predetermined time interval and for detecting said signal and removing it from said information transmission; recorder means for receiving and recording the presence or absence of said detected signal; control means for instructing said carrier receiving means to receive the appropriate carrier transmission within said predetermined time interval and to direct said received carrier transmission to said demodulating means and detector means; control means for instructing said detector means to detect the presence or absence of said embedded signal within said predetermined time interval; and control means for instructing said recorder means to transmit the information recorded thereon to a remote site.

US PAT NO: 4,965,825 [IMAGE AVAILABLE]

L6: 2 of 4

CLMS(3)

CLMS(4)

4. In a signal processor, carrier transmission receiving means; means for demodulating said carrier transmission to detect an information transmission thereon; detector means for determining the presence or absence of an embedded signal in said information transmission within a predetermined time interval and for detecting said signal and removing it from said information transmission; buffer means for organizing said detected signals with detected signals from other detector means into a data stream; recorder means for receiving and recording said stream; control means for instructing said carrier receiving means to receive the appropriate carrier transmission within said predetermined time interval

and to direct received said carrier transmission to said demodulating means and said detector means; control means for instructing said recorder to direct information recorded thereon to a remote site; control means responsive to some of said detected signals in said data stream to activate and/or deactivate equipment external to said signal processor; and control means responsive to some other of said detected signals in said data stream to alter the location in succeeding information transmissions examined for embedded signals.

CLMS (5)

5. In a signal processor, carrier transmission receiving means; means for demodulating said carrier transmission to detect an information transmission thereon; detector means for determining the presence or absence of an embedded signal in the information transmission within a

US PAT NO: 4,965,825 [IMAGE AVAILABLE]

L6: 2 of 4

CLMS (5)

predetermined time interval and for detecting said signal and removing it from said information transmission; buffer means for organizing said detected signals with detected signals from other detector means into a data stream; recorder means for receiving and recording said data stream; control means for instructing said carrier receiving means to receive the appropriate carrier transmission within said predetermined time interval and to direct said received carrier transmission to said demodulating means and said detector means; control means for instructing said detector means to detect the presence or absence of said embedded signal within said predetermined time interval; and control means for instructing said recorder to direct information recorded thereon to a remote site.

CLMS (6)

6. The apparatus as claimed in claim 1 wherein the embedded signal is encrypted and including a decrypter means for decrypting said signal.

CLMS (7)

7. The apparatus as claimed in claim 2 wherein the embedded signal is encrypted and including a decrypter means for decrypting said signal.

CLMS (8)

8. The apparatus as claimed in claim 3 wherein the embedded signal is encrypted and including a decrypter means for decrypting said signal.

US PAT NO: 4,965,825 [IMAGE AVAILABLE]

L6: 2 of 4

CLMS (9)

9. The apparatus as claimed in claim 4 wherein the embedded signal is encrypted and including a decrypter means for decrypting said signal.

CLMS (10)

10. The apparatus as claimed in claim 2 including means for receiving and detecting embedded signals on a plurality of carrier transmissions.

CLMS (11)

11. The apparatus as claimed in claim 3 including means for receiving and detecting embedded signals on a plurality of carrier transmissions.

CLMS (12)

12. The apparatus as claimed in claim 4 including means for receiving and detecting embedded signals on a plurality of carrier transmissions.

CLMS(13)

13. The apparatus in claim 5 wherein the embedded signal is encrypted and including a decrypter means for decrypting said signal.

CLMS(14)

14. A method of processing signals including:
(a) the step of receiving a carrier transmission;

US PAT NO: 4,965,825 [IMAGE AVAILABLE] L6: 2 of 4

CLMS(14)

(b) the step of demodulating said carrier transmission to detect an information transmission thereon;
(c) the step of detecting and identifying embedded signals on said information transmission;
(d) the step of passing said embedded signals to a device or devices to be controlled based on instructions identified within said embedded signals;
(e) the step of controlling said devices based on the instructions within said embedded signals; and
(f) the step of recording the receipt of and passing to said devices of said embedded signals.

CLMS(15)

15. A method of processing signals as claimed in claim 14 including the step of decrypting encrypted embedded signals.

CLMS(16)

16. A method of processing signals as claimed in claim 14 including the step of recording the response of the device or devices to be controlled by the embedded signals for later transmission to a remote site.

CLMS(17)

17. A method of processing signals as claimed in claim 14 including the step of decrypting an encrypted information transmission.

US PAT NO: 4,965,825 [IMAGE AVAILABLE] L6: 2 of 4

CLMS(18)

18. A method of processing signals as claimed in claim 14 including the step of removing a portion of said detected embedded signal.

CLMS(19)

19. A method of processing signals as claimed in claim 14 including the step of adding a second signal to the information transmission.

CLMS(20)

20. A method of generating computer output at a multiplicity of receiver stations each of which includes a computer adapted to generate and transmit user specific signals to one or more associated output devices, with at least some of said computers being programmed to process modification control signals so as to modify said computers' method of processing data and generating output information content, each of said computers being programmed to accommodate a special user application, comprising the steps of:

transmitting an instruct-to-generate signal to said computer at a time when corresponding user specific output information content does not exist,
detecting the presence of said instruct-to-generate signal at selected receiver stations and coupling said instruct-to-generate signal to the computers associated with said selected stations, and
causing said last named computer to generate their user specific output information content in response to said instruct-to-generate signal, thereby to transmit to each of their associated output devices an

US PAT NO: 4,965,825 [IMAGE AVAILABLE]

L6: 2 of 4

CLMS (20)

output signal comprising the user specific output information content and the user specific signal of its associated computer, the output signals at a multiplicity of said output devices being different, with each output signal specific to a specific user.

CLMS (21)

21. A method according to claim 20, wherein said instruct-to-generate signal contains information which, when said signal is received by selected receiver stations, causes said receiver station computers to generate said specific output information, said generation being in accordance with said instruct-to-generate signal information.

CLMS (22)

22. A method according to claim 20, further including the step of transmitting a modification control signal to at least one computer at a selected receiver station which is programmed to process modification control signals, and causing said at least named computer to modify its method of processing data and generating output information content in response thereto.

CLMS (23)

23. A method according to claim 20, further including the step of preprogramming at least one of said selected receiver stations to modify its method of processing data and generating output information content in response to said instruct-to-generate signal.

US PAT NO: 4,965,825 [IMAGE AVAILABLE]

L6: 2 of 4

CLMS (23)

CLMS (24)

24. In a method of generating computer output at a multiplicity of receiver stations each of which includes a computer adapted to generate and transmit user specific output information content and user specific signals to one or more associated output devices, with at least some of said computers being programmed to process modification control signals so as to modify said computers' method of processing data and generating output information content, each of said computers, being programmed to accommodate a special user application, the steps of:

transmitting an instruct-to-generate signal to said computers at a time when corresponding user specific output information content does not exist, and

causing said last named computers to generate their user specific output information content in response to said instruct-to-generate signal, thereby to transmit to each of their associated output devices an output signal comprising the user specific output information content and the user specific signal of its associated computer, the output signals at a multiplicity of said output devices being different, with each output signal specific to a specific user.

CLMS (25)

25. In a method of generating computer output at a multiplicity of receiver stations each of which includes a computer adapted to generate and transmit user specific output information content and user specific signals to one or more associated output devices, with at least some of

US PAT NO: 4,965,825 [IMAGE AVAILABLE]

L6: 2 of 4

CLMS (25)

said computers being programmed to process modification control signals so as to modify said computers' method of processing data and generating output information content, each of said computers being programmed to accommodate a special user application, the steps of:

detecting at selected receiver stations the presence of an

instruct-to-generate signal transmitted by a transmission source and coupling said instruct-to-generate signal to the computers associated with said selected stations, and

causing said last named computers to generate their user specific output information content in response to said instruct-to-generate signal, thereby to transmit to each of their associated output devices an output signal comprising the user specific output information content and the user specific signal of its associated computer, the output signals at a multiplicity of said output devices being different, with each output signal specific to a specific user.

US PAT NO: 4,704,725 [IMAGE AVAILABLE]

L6: 3 of 4

CLAIMS:

CLMS (1)

We claim:

1. A method of communicating data to a multiplicity of receiver stations, each of which includes a computer adapted to generate and transmit user specific signals to one or more associated output devices, with at least some of said computers being programmed to process

US PAT NO: 4,704,725 [IMAGE AVAILABLE]

L6: 3 of 4

CLMS (1)

modification control signals so as to modify the user specific signals transmitted to their associated output devices, each of said computers being programmed to accommodate a special user application, comprising the steps of:

transmitting an instruct-to-process signal to said computers to cause each of said computers to process data in accordance with its associated special user application,

transmitting an instruct-to-output signal to said computers at a time when the corresponding user specific information is not being transmitted to an output device,

detecting the presence of said instruct-to-output signal at selected receiver stations and coupling said instruct-to-output signal to the computers associated with said selected stations, and

causing said last named computers simultaneously to output their user specific signals to their associated output devices in response to said instruct-to-output signal, thereby to transmit to the selected output devices an output signal comprising said data and said related user specific signals, the output signals at a multiplicity of said output devices being different, with each output signal specific to a specific user.

CLMS (2)

2. A method according to claim 1, further including the step of transmitting a modification control signal to the computers which are programmed to process modification control signals, and causing said last named computers to modify their respective user specific signals in response thereto.

US PAT NO: 4.704.725 [IMAGE AVAILABLE]

L6: 3 of 4

CLMS(2)

CLMS(3)

3. A method of communicating data to a multiplicity of receiver stations each of which includes a computer adapted to generate and transmit user specific signals to one or more associated output devices, with at least some of said computers being programmed to process modification control signals so as to modify the user specific signals transmitted to their associated output devices, each of said computers being programmed to accommodate a special user application, comprising the steps of:
transmitting an instruct-to-transmit signal to said computers at a time when the corresponding user specific information is not being transmitted to an output device,
detecting the presence of said instruct-to-transmit signal at selected receiver stations and coupling said instruct-to-transmit signal to the computers associated with said selected stations, and
causing said last named computers to generate and transmit their user specific signals to their associated output devices in response to said instruct-to-transmit signal, thereby to transmit to the selected output devices an output signal comprising said data and said related user specific signals, the output signals at a multiplicity of said output devices being different, with each output signal specific to a specific user.

CLMS(4)

4. A method according to claim 3, further including the step of transmitting a modification control signal to the computers which are

US PAT NO: 4.704.725 [IMAGE AVAILABLE]

L6: 3 of 4

CLMS(4)

programmed to process modification control signals, and causing said last named computers to modify their respective user specific signals in response thereto.

CLMS(5)

5. A method according to claims 3 or 4, wherein said last named computers simultaneously start and stop the transmission of their user specific signals to their associated output devices.

US PAT NO: 4.694.490 [IMAGE AVAILABLE]

L6: 4 of 4

CLAIMS:

CLMS(1)

We claim:

1. A method of communicating television program material to a multiplicity of receiver stations each of which includes a television receiver and computer, the computers being adapted to generate and transmit overlay signals to their associated television receivers, said overlay signals causing the display of user specific information related to said program material, and with at least some of said computers being programmed to process overlay modification control signals so as to

modify the overlay signals transmitted to their associated receivers, each of said computers being programmed to accommodate a specific user application, comprising the steps of:

US PAT NO: 4,694,490 [IMAGE AVAILABLE]

L6: 4 of 4

CLMS (1)

transmitting a video signal containing a television program signal to said receivers,
transmitting an instruct-to-overlay signal to said receiver stations at a time when the corresponding overlay is not being displayed,
receiving said video signal at a plurality of receiver stations and displaying said program material on the video receivers of selected ones of said plurality of receiver stations,
detecting the presence of said instruct-to-overlay signal at said selected receiver stations and coupling said instruct-to-overlay signal to the computers associated with the video receivers of said selected stations, and
causing said last named computers to generate and transmit their overlay signals to their associated television receivers in response to said instruct-to-overlay signal, thereby to present a display at the selected receiver stations including the television program material and the related computer generated overlay, the overlays displayed at a multiplicity of said receiver stations being different, with each display specific to a specific user.

CLMS (2)

2. A method according to claim 1, further including the step of transmitting an overlay modification signal to the computers which are programmed to process overlay modification signals, and causing said last named computers to modify their respective overlay signals in response thereto.

US PAT NO: 4,694,490 [IMAGE AVAILABLE]

L6: 4 of 4

CLMS (3)

3. A method according to claim 1, wherein said instruct-to-overlay signal is embedded in said video signal outside the range of the television picture.

CLMS (4)

4. In a method of communicating television program material to a multiplicity of receiver stations each of which includes a television receiver and computer, the computers being adapted to generate and transmit overlay video signals to their associated television receivers, said overlay signals causing the display of user specific information related to said program material, and with at least some of said computers being programmed to process overlay control signals transmitted to their associated receivers, each of said computers being programmed to accommodate a unique user application, the steps of
transmitting a video signal containing a television program signal to said receiver stations, and
transmitting an instruct-to-overlay signal at a time when the corresponding overlay is not being displayed to thereby cause selected ones of said computers to generate and transmit their overlay signals to their associated television receiver to present a combined display consisting of the television program and the related computer generated overlay, the overlays displayed at a multiplicity of said receiver stations being different, with each display unique to a specific user.

CLMS (5)

CLMS (5)

5. A process according to claim 4, further including the step of transmitting an overlay modification signal to the computers which are programmed to process overlay modification signals.

CLMS (6)

6. A method according to claim 4, wherein said instruct-to-overlay signal is embedded in said video signal outside the range of the television picture.

CLMS (7)

7. In a method of communicating television program material to a multiplicity of receiver stations each of which includes a television receiver and computer, the computers being adapted to generate and transmit overlay video signals, to their associated television receivers, said overlay signals causing the display of user specific information related to said program material, and with at least some of said computers being programmed to process overlay modification control signals so as to modify the overlay video signals transmitted to their associated receivers, each of said computers being programmed to accommodate a specific user application, and wherein a video signal containing a television program signal and an instruct to-overlay signal are transmitted to said receiver stations, the steps of receiving said video signal at a plurality of receiver stations and displaying said program material on the video receivers of selected ones of said plurality of receiver stations, detecting the presence of said instruct-to-overlay signal at said

CLMS (7)

selected receiver stations at a time when the corresponding overlay is not being displayed, and coupling said instruct-to-overlay signal to the computers at said selected receiver stations, and causing the computers at said selected receiver stations to generate and transmit their overlay video signals to their associated television receivers in response to said instruct-to-overlay signal, thereby to present a combined display at the selected receiver stations consisting of the television program and the related computer generated overlay, the overlays displayed at a multiplicity of said receiver stations being different, with each display specific to a specific user.

CLMS (8)

8. A method according to claim 7, further including the step of transmitting an overlay modification signal to the computers which are programmed to process overlay modification signals, and causing said last named computers to modify their respective overlay video signals in response thereto.

CLMS (9)

9. Television signal processor means, comprising carrier transmission receiving means, means for demodulating the output of said receiving means to detect a video program signal, means normally coupling said video signal to a television receiver, decoder means for determining the presence or absence of an embedded instruct-to-overlay signal in said video signal at a time when the corresponding overlay is not being displayed, computer means for generating and transmitting video overlay